

Attorney Docket No. P63163US0  
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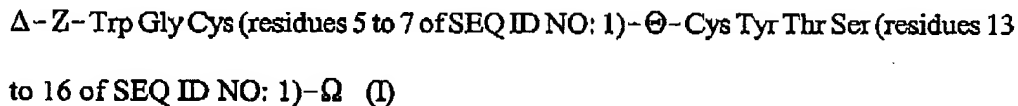
**Amendments to the claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of claims:**

Claims 1-76 (cancelled)

77 (currently amended): Synthetic peptides in linear form, or cyclized by means of inter-cysteine disulphide bridges, having the general formula (I):



wherein:

-  $\Delta$  is selected from the group consisting of a biotinyl radical, a biocytinyl radical, a hydrogen atom, an acetyl ( $\text{CH}_3\text{CO-}$ ) radical, an aliphatic chain which may contain one or two thiol, an aldehyde functional group and an amine functional group,

- Z is a peptide sequence selected from the group consisting of:

Leu Leu Ser Leu (residues 1 to 4 of SEQ ID NO: 2)

Leu Leu Ser Ser (residues 1 to 4 of SEQ ID NO: 3),

Leu Leu Asn Ser (residues 1 to 4 of SEQ ID NO: 6),

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Arg Leu Asn Ser (residues 1 to 4 of SEQ ID NO: 16),

Ala Leu Glu Thr Leu Leu Gln Asn Gln Gln Leu Leu Asn Ser (residues 1 to 14 of SEQ ID NO: 11),

Ala Leu Glu Thr Leu Leu Gln Asn Gln Gln Leu Leu Asp Leu (residues 1 to 14 of SEQ ID NO: 13),

Ala Leu Glu Thr Leu Leu Gln Asn Gln Gln Leu Leu Asn Ile (residues 1 to 14 of SEQ ID NO: 12),

Leu Asn Gln Gln Arg Leu Leu Asn Ser (residues 1 to 9 of SEQ ID NO: 14), and

Arg Ala Leu Glu Thr Leu Leu Asn Gln Gln Arg Leu Leu Asn Ser (residues 1 to 15 of SEQ ID NO: 15),

- $\Theta$  is a peptide sequence selected from the group consisting of:

Arg Gly Arg Leu Val (residues 8 to 12 of SEQ ID NO: 2),

Arg Gly Lys Leu Ile (SEQ ID NO: 17),

Arg Gly Lys Leu Val (SEQ ID NO: 18), and

Lys Gly Arg Leu Val (residues 8 to 12 of SEQ ID NO: 3),

- $\Omega$ , attached to the -CO- group of Ser, is selected from the group consisting of:

a hydroxyl group and

a peptide sequence of formula

Val -  $\Psi$ ,

Val Arg Trp Asn Glu Thr- $\Psi$ (residues 27-32 of SEQ ID NO: 11),

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Val Gln Trp Asn Glu Thr-Ψ (residues 27 to 32 of SEQ ID NO: 1), and

Val Gln Trp Asn Ser Thr-Ψ (residues 27 to 32 of SEQ ID NO: 4),

wherein Ψ, attached to the -CO- residue of Val or Thr, is selected from the group consisting of a OH group, a NH<sub>2</sub> group, and an alkoxy radical comprising from 1 to 6 carbon atoms.

78 (previously presented): Synthetic peptides of formula (I) according to claim 77 wherein Δ represents an aliphatic chain, said aliphatic chain being selected from the group consisting of an alkyl chain of 1 to 6 carbon atoms, an alkenyl chain of 2 to 6 carbon atoms, and an aminoalkylcarbonyl chain of 2 to 6 carbon atoms.

79 (previously presented): Synthetic peptides of formula (I) according to claim 77 including one of the following sequences:

LLSLWGCRGRLVCYTSVQWNET

or

Leu Leu Ser Leu Trp Gly Cys Arg Gly Arg Leu Val Cys Tyr Thr Ser Val Gln Trp Asn

1                      5                      10                      15                      20

Glu Thr (SEQ ID NO: 2),

22

LLSSWGCKGRLVCYTSVQWNET

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or

Leu Leu Ser Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr Thr Ser Val Gln Trp Asn  
1 5 10 15 20  
Glu Thr (SEQ ID NO: 3),  
22

LLSSWGCKGRLVCYTSVQWNST

or

Leu Leu Ser Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr Thr Ser Val Gln Trp Asn  
1 5 10 15 20  
Ser Thr (SEQ ID NO: 4),  
22

LLQSWGCKGRLVCYTSVQWNST

or

Leu Leu Gln Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr Thr Ser Val Gln Trp Asn  
1 5 10 15 20  
Ser Thr (SEQ ID NO: 5),  
22

LLSSWGCRGRLVCYTSVQWNET

or

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Leu Leu Ser Ser Trp Gly Cys Arg Gly Arg Leu Val Cys Tyr Thr Ser Val Gln Trp Asn

1 5 10 15 20

Glu Thr (SEQ ID NO: 8),

22

LLSSWGCKGRLVCYTS

or

Leu Leu Ser Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr Thr Ser (SEQ ID NO: 9),

1 5 10 15

LLNSWGCKGRLVCYTS

or

Leu Leu Asn Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr Thr Ser (SEQ ID NO: 10),

1 5 10 15

ALETLLQNQQLLSWGCRGRLVCYTSVRWNET

or

Ala Leu Glu Thr Leu Leu Gln Asn Gln Gln Leu Leu Asn Ser Trp Gly Cys Arg Gly

1 5 10 15

Arg Leu Val Cys Tyr Thr Ser Val Arg Trp Asn Glu Thr (SEQ ID NO: 11),

20 25 30

ALETLLQNQQLLNIWGCRGRLVCYTSVRWNET

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or

Ala Leu Glu Thr Leu Leu Gln Asn Gln Gln Leu Leu Asn Ile Trp Gly Cys Arg Gly

1 5 10 15

Arg Leu Val Cys Tyr Thr Ser Val Arg Trp Asn Glu Thr (SEQ ID NO: 12),

20 25 30

ALETLLQNQQLLDLWGCRGRLVCYTSSVRWNET

or

Ala Leu Glu Thr Leu Leu Gln Asn Gln Gln Leu Leu Asp Leu Trp Gly Cys Arg Gly

1 5 10 15

Arg Leu Val Cys Tyr Thr Ser Val Arg Trp Asn Glu Thr (SEQ ID NO: 13),

20 25 30

LNQQRLLNSWGCKGRLVCYTSSV

or

Leu Asn Gln Gln Arg Leu Leu Asn Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr

1 5 10 15

Thr Ser Val (SEQ ID NO: 14),

20

RALETLLNQQRLLNSWGCKGRLVCYTSSV

or

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Arg Ala Leu Glu Thr Leu Leu Asn Gln Gln Arg Leu Leu Asn Ser Trp Gly Cys Lys

1 5 10 15

Gly Arg Leu Val Cys Tyr Thr Ser Val (SEQ ID NO: 15),

20 25

RLNSWGCKGRLVCYTSV

or

Arg Leu Asn Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr Thr Ser Val (SEQ ID NO: 16),

1 5 10 15

80 (previously presented): Composition containing at least one synthetic peptide of formula (I) according to claim 77, said peptide being freeze-dried or diluted in water.

81 (previously presented): Composition according to claim 80 containing, as the at least one synthetic peptide of formula (I), SEQ ID NO: 3 and SEQ ID NO: 1.

82 (previously presented): Composition containing at least one synthetic peptide of formula (I) according to claim 77 and at least one group O HIV-1 recombinant peptide.

83 (previously presented): Composition containing at least one synthetic peptide of formula (I) according to claim 77, and at least one HIV-1 and/or HIV-2 recombinant or synthetic peptide.

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84 (previously presented): Immunoassay method for detecting a group O HIV-1 infection comprising the steps of a) obtaining a sample from a patient likely to contain anti-group O HIV-1 antibodies:

- b) contacting at least one synthetic peptide of formula (I) according to claim 77, detectably labeled, with said sample;
- c) detecting the presence or absence of a complex between said peptides and said antibodies;
- d) optionally assaying the amount of said antibodies in the sample; wherein the presence of a complex between said peptides and said antibodies is indicative of a group O HIV-1 infection.

85 (previously presented): Immunoassay method for detecting a group O HIV-1 infection comprising the steps of:

- a) obtaining a sample from a patient likely to contain anti-group O HIV-1 antibodies;
  - b) contacting a composition according to claim 80, containing at least one synthetic peptide of formula (I), detectably labeled, with said sample;
  - c) detecting the presence or absence of a complex between said peptides and said antibodies;  
and
  - d) optionally assaying the amount of said antibodies in the sample;
- wherein the presence of a complex between said peptides and said antibodies is indicative of a group O HIV-1 infection.



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86 (previously presented): Diagnostic kit for the detection of group O HIV-1 specific antibodies comprising

- a) a first container comprising at least one synthetic peptide of formula (I) according to claim 77 and
- b) second container comprising appropriate means of detection of complexes between said antibodies and said peptide.

87 (previously presented): Diagnostic kit for the detection of group O HIV-1 specific antibodies comprising

- a) first container comprising a composition according to claim 80 and
- b) a second container comprising appropriate means of detection of complexes between said antibodies and said peptide.